Network Working Group Jon Postel
Request for Comments 719 SRI-ARC
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Discussion on RCTE

The following is the significant portion of a dialog on RCTE that has followed the publication of RFC 718.

15-Jul-76 Nancy Mimno (BBN-NET)

> Jon,
> I've read RFC718 and have got some comments, in particular with respect to the 'third problem' or clearing the input buffer part.
>
> 1) I believe the stated implementation is backwards: in the normal case of the RCTE mode negotiation, the server sends "WILL RCTE" and the user sends "DO RCTE"; the reverse case is thus the server sending "DO RCTE" and the user "WILL RCTE". Also, it is probably wise to say explicitly that the server's sending "DO RCTE" requires the user process to respond "WILL (or WON'T) RCTE" and that this response is the synchronizing mark.
>
> 2) The problem is a real one and I think the RCTE protocol would be better with a "clear input, reset counters" function. The question is how to do it. In talking with Ray yesterday, I learned that he had this in mind as a general function, not restricted to RCTE; in fact, TENEX sends the "reverse RCTE" option for "clear your input buffer" whether or not the connection is in RCTE mode. In this case, the statement about "cannot be confused with the normal use of the RCTE option" will not always be true. I think we both agreed that the current solution should just be an interim one.
>
> 3) I suggest a different way of performing this function, using the Synch-datamark sequence. First, the RCTE option would have to explicitly require that this function reset the counters and cause a "clear your input buffer (of data)", all synchronized with the datamark of course. This is pretty much what it is now except for the reset counters; receiving Synch-datamark when in RCTE probably needed defining anyhow. Because RCTE won't work unless both sides agree, the "clear input and reset counters" meaning for Synch-datamark would have to be a mandatory part of the RCTE option. Second, since the Synch-datamark is a "one-way" function, there needs to be a way for one side of the connection to tell the other side to "send me a Synch-datamark". The New Telnet protocol spec implied that Abort Output could be used for that purpose; if not, then perhaps a new function could be defined. Again, the RCTE option should make

some explicit statement requiring (or very strongly recommending) this interpretation of AO. For non-RCTE mode, it's a nice idea but probably not required. Ray has tentatively agreed- thinks it could work on Tenex (server side). I would like your comments and Doug Dodds' (Tenex user RCTE). I don't know of any other existing RCTE implementations that would have to change. I also don't know what it takes to extend official protocols these days, but maybe it's easier to do that than define a new option (ie reverse RCTE).

Regards,
Nancy

15-Jul-76 Doug Dodds (BBN-RCC)

Nancy,

Your suggestion for the RCTE-clear function being performed by the AO command (when RCTE is on) is a good one. I see no problem with it from the side of the Tenex User Telnet (NTELNET). At present NTELNET is ignoring AO (and some other commands) entirely; this is a good opportunity to implement it in general.

Doug

21-Jul-76 Jon Postel (SRI-ARC)

I met with Ray Tomlinson for a few minutes to discuss the RCTE-clear function and other RCTE features. We agreed that Nancy's suggestion for using the AO command for the clear function made sense. We also determined that the RCTE document should say something about the state some other options should be in when using RCTE. For example we believe that GO-AHEAD must be suppressed while RCTE is in use, that when one quits RCTE the ECHO mode must be restored to what it was at the time of entering RCTE, and that BINARY and RCTE do not make sense as a combination because every byte would have to be assumed to be a break character. We also determined that it is unworkable to use RCTE and no break characters since there is no way to get out of that state.

22-Jul-76 Jon Postel (SRI-ARC)

As a result of the above discussion i will prepare a revised RCTE specification document. A draft will be distributed to intrested parties for comments and the final document will be published as an RFC.